DOCUMENT RESUME

ED 461 813 CG 031 575

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TITLE Teaching Psychometrics in South Korea through a Reunification Attitude Scale Class Project.
PUB DATE 2001-08-00
NOTE 7p.; Paper presented at the Annual Meeting of the American Psychological Association (109th, San Francisco, CA, August 24-28, 2001).
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Attitude Measures; Class Activities; *College Students; Foreign Countries; Group Unity; Higher Education; *Political Divisions (Geographic); *Psychometrics; Questionnaires; *Research Methodology; Social Change
IDENTIFIERS North Korea; South Korea

ABSTRACT

The introduction of a team term project into a Korean psychometrics class is described. Students developed an item pool of attitude statements regarding the reunification of South Korea and North Korea. Then teams of students used the item pool to develop attitude questionnaires, survey other students, analyze the results, and recommend which items to include in an Attitudes Toward Reunification Questionnaire. The objectives of the teaching activity were to give students experience in the use of scientific problem solving, to help them understand the reasons behind the principles of scale construction, and to give them an appreciation of the methods of psychometrics as they used them in scale construction. Evaluation of the project focuses on practical course administration issues and cross cultural considerations. (Author/SLD)

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Teaching Psychometrics in South Korea Through A Reunification Attitude Scale Class Project

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Abstract

The introduction of a team term project into a Korean psychometrics class is described. Students developed an item pool of attitude statements regarding the reunification of South Korea and North Korea. Then teams of students used the item pool to develop attitude questionnaires, survey other students, analyze the results and recommend which items to include in an Attitudes Toward Reunification Questionnaire. Evaluation of the project focuses on practical course administration issues and cross-cultural considerations.

Objectives

The objectives of this teaching activity were to give students experience in the use of scientific problem solving, to help them understand the reasons behind the principles of scale construction and to give them an appreciation of the methods of psychometrics as they used them in scale construction.

Course Context

The psychometrics course is an upper level psychology major course with no prerequisites. It was unusual in the Fall of 2000 because it was taught in English by an American instructor. It was also unusual because it included the student team term project. The typical Korean undergraduate course does not include student centered active learning, but relies on a traditional lecture format. The students reported that the project was their first experience of using course content to develop and complete an empirical project.

During a psychometrics course students should learn about test development, evaluation and application. Course content pertaining to test construction, reliability and validity can be both difficult and tedious at the same time. A deeper understanding and appreciation of that content can be achieved if students actually apply knowledge of psychometrics to develop a psychological measurement instrument. The particular psychological characteristic (variable) to be assessed should be one that is of clear relevance to the students and of interest in current psychological research. Attitudes toward Korean reunification fit these criteria.

The class project began shortly after the announcement of Kim Dae Jung's Nobel Peace Prize. Although many Koreans were very proud of their President's efforts toward reunification there seemed to be a broad range of attitudes toward it. Understanding these attitudes can contribute to studies of peace and conflict resolution. Korea claims a 5000 year history with the unified Shilla Kingdom marking the beginning of a combined Korea dated at the year 668. The entire Korean Peninsula was one country

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for the next 12 1/2 centuries. The Korean War resulted in its division into North Korea and South Korea in 1953. Almost half a century later North Korea is recognized as one of the world's last remaining totalitarian communist dictatorships. In contrast, South Korea is a very dynamic, highly developed, capitalist democracy. Both countries are led by Kims. President Kim Il Jong is the first communist dictator in the history of the world to succeed his father as the leader of his country. President Kim Dae Jong received the Nobel Peace Prize for his attempts to broker peace and eventual reunification with North Korea.

Early in the semester the class project had been defined as a Korean version of the Belief in Equality Scale (Gray, 1996). This topic produced cooperation from the students but no enthusiasm. They explained that Korea's Confucian heritage made equality irrelevant to them. Reunification of the two Koreas on the other hand was their issue. Students in South Korea are very politically active. Demonstrations are the norm. A previous South Korean dictator has been forced from power after nationwide demonstrations that started with Korea University students. Their perceived political power and the timeliness of the topic combined to increase student motivation for the course project.

Project Stages

The class project was divided into four stages: a) development of an item pool, b) preliminary draft instrument review, c) data collection and scale construction and d) report.

Item Pool Development. Each class member wrote ten attitude statements regarding reunification of the two Koreas (five against reunification and five in favor of reunification). They were instructed to write statements that reflected a full range of attitudes. Although the students were asked to submit the items in both Korean and English the majority of students submitted initial items only in English.

Draft Instrument Review. In the second stage of the task the class members were assigned to one of three teams (5-7 members per team). Each team leader (volunteer) was given instructions for stage 2 of the task. This stage involved selecting a method of scale construction (Guttman, Thurstone or Likert) and using that method with the class generated attitude statements to construct a reunification attitude scale. During this stage team members identified the information needs required to perform the task. Questions they asked included:

- What should they do about redundant or ambiguous items?
- How many items should be in the final scale?
- What is the appropriate number of judges or raters for the preliminary items?
- What specific formula should they use for estimating reliability?
- How does the theory of test construction relate to the measurement of attitudes toward reunification?

This stage was particularly challenging to the students because, as they reported, they had not previously participated in the active application of psychology content for an empirical project. When the objectives were again explained to them they seemed to enthusiastically rise to the challenge. In their enthusiasm two of the three teams began data collection prematurely (before instructor review).

Data Collection and Analysis. In the third stage the students collected data, performed item analyses, determined the items for their final scales and calculated scale reliability. Shared workloads within the team made the project feasible in the constricted time available within a semester. Each team member was responsible for administering a set of the surveys. Although all the students were either juniors or seniors their previous course work in psychology ranged from none to as many as 12 courses. Each team had students who had previously studied statistics and those who had not. They were encouraged to share the work fairly, with those having more statistics knowledge leading in that part of the project while the others could lead in other parts.

Report. Team reports were in three parts. Each team completed a written Method section that described the sample of raters or judges used to develop the scale, the materials used (including their preliminary instrument coded with original item pool numbers) and the procedure used to collect the ratings or judgments. An oral team report was given that included: a) the objective of the attitude assessment, b) an explanation of why the particular method of scale construction was chosen, c) the final items selected for the scale with an explanation of the criteria used by the team for item inclusion. The oral reports closed with the scale's internal consistency measures and the team's suggestions for the next steps to determine the reliability and validity of their scale. The third component of the report included the raw data, an electronic form of the data and all statistical analyses that were used to construct the scale.

Evaluation and Recommendations

The benefits of this class exercise were that students increased their motivation to understand the concepts of psychometrics. Through using a team approach they were able to work together to discover what essential features of scale construction they needed to review or study more deeply. They were also able to understand first hand the problem solving process of psychological measurement. One question on the final exam asked students to describe the most important thing that they had learned in the course and to explain why it was most important. A majority of the 18 students chose to talk about the depth of learning that they had achieved through applying the techniques in the project as opposed to simply reading about them. Of those students who did not graduate (January graduation), 2/3 elected to take an advanced research methods course the next semester that would also include active team based projects. Because the number of students in the second class who had also completed the first class was so high and student interest in reunification was still strong that class used the attitude scales developed in the psychometrics class for the basis of an investigation of the effects of temporal focus on Korean University Student attitudes toward reunification.

From a course administration perspective dividing the project into several clear parts with specific deadlines and quick faculty review of those parts was very important. Each part should be assigned as students have covered the course content to be applied. Too much information, given too soon would confuse the students. It could also serve to discourage them with the magnitude of the project. Some students were frustrated with the ambiguity of course requirements. However, it is important for students to learn about the iterative nature of research and the value of flexibility. The Korean students had never heard of Murphy's Law. It appeared to be a new experience for them to plan, and then to revise the plans, when things did not go according to the original plan.

The success of the course project depended upon frequent and quick communication among team members and with the instructor. E-mail and an electronic bulletin board were effective ways to maintain communication between the instructor and the students. The teams themselves did not use these two electronic communication strategies as planned by the instructor. When teams have most of their communication with electronic bulletin boards or e-mail that "copies" the instructor it is relatively easy for the instructor to monitor the teams' progress. Korean students preferred to use cell phones for voice communication, leaving the instructor "out of the loop."

The teaching techniques that were learned in the psychometrics class that applied well in the advanced research methods class include the following.

- Topic Selection: Be sure the topic is of interest and relevant to the students.
- Teams of four to seven students should be composed of students with a mix of previous psychology coursework and abilities.
- Projects should be clearly divided into sequential parts.
- Teams need frequent and timely feedback on project activities.
- Students should be given an opportunity to describe how the project contributed to their understanding of the course content.

Cross-Cultural Considerations

Ethical review boards are not a part of the Korean University system and not used for the review of psychological research at Korea University. Furthermore, the use of informed consent with signed forms is inconsistent with the culture. For those reasons, I (as a visiting U.S. lecturer) decided to engage in only the types of research that do not require ethical review by University Review Boards under U.S. policy and practice and which also did not require review according to my home institution's policy. The students were instructed in the ethics of survey research according to the American Psychological Association with the caveat that some principles may be culturally specific. The goal of treating research participants with dignity and respect was stressed.

English was the language of instruction and the students were competent in both English listening and speaking. The research was appropriately conducted in the Korean language because of the population to be sampled, and more importantly

because of the issue under study. To attempt to study attitudes toward Korean reunification in a foreign language, and that language being English, would be likely to bias the results. The main problem with using the Korean language was for the instructor who needed to understand the project. The students wrote their original items in the Korean language and then made as close to verbatim translations for the professor as were possible. Some Korean concepts do not readily translate into English. In some cases the students simply did not know the English word. In many more there is no English word with the same meaning. In a few cases there may not be a similar Western concept.

Korean collectivism made the team project particularly appropriate. Individual attention for performance, either positive or negative, is embarrassing and culturally inappropriate in the classroom context. Thus, individual active learning projects would be very difficult to introduce. Normally shy Koreans seem willing to do many unusual things when on teams for the benefit of the team's performance. Evidence for this was the popularity of Korean TV game shows that feature teams of three or four people in competition doing many silly things for the camera and studio audience. None of the Korean students indicated discomfort with the team process. In contrast, in my American classes there are always some students who prefer to work alone. They especially prefer to have their grades based upon only their own work and complain that the team project will be an unfair way for them to be graded. However, it was unnecessary to explain to the Korean students that part of their future success depends upon their ability to work effectively in teams. The close bond between people who belong to the same group is one of those Korean words for which there is no exact English equivalent. Students in individualistic societies will probably need more explicit instruction in effective teamwork than did the Korean students.

Reference

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